

# **BURLINGTON ELECTRIC DEPARTMENT'S ASSESSMENT OF THE RISKS AND BENEFITS OF THE PROPOSED PURCHASE OF ELECTRICITY FROM HQ ENERGY SERVICES (U.S.) INC.**

On April 15, 2011, the Vermont Public Service Board ("PSB") issued to Burlington Electric Department ("BED") and nineteen (19) other Vermont electric utilities a certificate of public good ("CPG") approving a Power Purchase Agreement ("PPA") for the purchase of shares of between 218 MW and 225 MW of energy from HQ Energy Services (U.S.) Inc. ("HQUS") starting in 2012 and continuing through 2038. Pursuant to 30 V.S.A. §248(c), BED is required to provide Burlington voters with a written assessment of the risks and benefits of the proposed PPA as identified by the PSB in the CPG. At page 3 of its Order the PSB stated:

The proposed HQ PPA would provide a number of benefits to Vermont utilities and their ratepayers. First, over the term of the contract the price of power is expected to be competitive with or favorable to market prices, and is less expensive than currently available sources of power with similar characteristics. Second, the price for this power is expected to be more stable than purely market-based purchases due to the formula for determining its future price. This formula is based not only on market prices for power but also on inflation, and includes a buffering feature that limits year-to-year fluctuations. Third, the Vermont utilities will receive environmental attributes associated with the energy delivered by HQUS into the New England market in an amount matching the Vermont utilities' purchases under the HQ PPA and reflecting at least 90 percent hydroelectricity, which Vermont law recognizes as renewable.

A complete copy of the PSB's Order and CPG is available for inspection and copying at the Office of the City Clerk/Treasurer and Burlington Electric Department. BED takes this opportunity to provide its assessment of the risks and benefits of the PPA.

## ***The PPA***

The PPA is between HQUS, the U.S. power-marketing subsidiary of Hydro-Quebec (HQ), as Seller, and Central Vermont Public Service Corporation, Green Mountain Power Corporation, Vermont Public Power Supply Authority ("VPPSA"), Vermont Electric Cooperative, Vermont Marble Power Division of OMYA, Inc., Town of Stowe Electric Department and BED, as Buyers. VPPSA, in turn, will sell its share of the energy to its participating municipalities. The PPA term begins November 1, 2012, and continues through October 31, 2038. Pursuant to the PPA, HQUS is obligated to deliver two distinct products: (1) up to 218 to 225 MW of energy; and (2) an equivalent quantity of environmental attributes corresponding to energy from the HQ system mix, which is to be comprised of at least 90% hydroelectricity.

The PPA includes six schedules of hourly volumes to be transacted sixteen hours per day (the key "peak load" hours), seven days a week, every day of the year for every year of the contract. The volume of energy delivered increases over the first eight years of the PPA as the deliveries pursuant to the existing contract between Vermont and HQ decrease. The initial allocation of 218 MW is based upon the current transfer capacity of the transmission interconnection between Quebec and the United States at Highgate, Vermont (the "Highgate Converter"). Plans are presently in place to increase the transfer capability of the Highgate

Convertor to 225 MW, and if these plans come to fruition, the PPA allocation will increase to 225 MW.

BED's proposed allocation of PPA energy is 5 MW from November 1, 2015 to October 31, 2020, which represents 9% of BED's annual energy requirements. BED's allocation increases to 9 MW from November 1, 2020 to October 31, 2035, which represents 17.5% of BED's annual energy requirements. BED's allocation decreases to 4 MW from November 1, 2035 through October 31, 2038. BED's proposed allocation will not change regardless of whether or not the transfer capability of the Highgate Convertor is increased to 225 MW.

### ***The PPA Contract Price***

The PPA's starting price for energy and the related environmental attributes is \$58.07/MWh for the first year of the contract. The starting price will thereafter be adjusted annually pursuant to formulaic calculations contained within the PPA. That formula is based upon regional electricity prices and the movement in general of price levels observed across the U.S. economy, subject to a damping feature that limits the change from the prior year's price. BED evaluated the PPA's pricing formula and found that while in some years the price could be higher than market prices, over the life of the contract it is likely to result in lower costs than what is obtainable in the market. As the PSB noted, while there may be periods when the pricing formula will not provide benefits, the benefits of price stability will continue.

The purchase and sale of electricity pursuant to the PPA will be transacted in the New England regional power market administered by Independent Service Operator-New England, Inc. ("ISO-NE") through an Internal Bilateral transaction ("IBT"). As the supplier of the energy in an IBT, HQUS has an obligation under ISO-NE market rules to deliver the committed quantity of energy into the New England market, or purchase an equivalent amount of energy from the market or through another IBT for the benefit of the Vermont Buyers. The obligation for the scheduled energy resides solely with HQUS, and the unavailability of supply or transmission does not excuse HQUS's performance under the PPA. This aspect of the PPA significantly reduces performance risk to the Vermont Buyers and provides the most "firm" type of energy available to the Vermont Buyers.

### ***Environmental Attributes***

The PPA requires HQUS to transfer environmental attributes to BED (and the other Vermont Buyers) associated with the energy delivered into the New England market in a quantity matching BED's share of the energy and reflecting HQ's system mix, which cannot be less than 90% hydroelectricity. The PPA obligates HQUS to verify that the HQ system mix is at least 90% hydroelectricity, the attributes are associated with the energy delivered into the New England market, that the attributes were owned by HQUS and transferred to BED and not to any other person, that the attributes were not part of energy sold elsewhere, and that the attributes were not retired or used in any other program. The PPA gives the Vermont Buyers the right to audit HQUS's compliance with these requirements, and obligates HQUS to pay a penalty if it fails to deliver the environmental attributes. The PPA contains revenue-sharing provisions related to environmental attributes, with HQUS and the Vermont Buyers sharing equally in revenues derived from the environmental attributes transferred as part of the PPA, as well as

revenues derived by HQUS for deliveries over the Highgate Converter during the off-peak hours that are outside the sixteen hours specified for deliveries under the PPA.

### ***Applicable Section 248 (b) Criteria***

The PSB reviewed the proposed PPA under the applicable criteria of 30 V.S.A. §248 (b). With respect to BED, it concluded that BED's proposed purchases were required to meet its need for present and future demand for service which could not be provided in a more cost-effective manner through energy conservation, efficiency or load management programs and measures. The PSB found that BED is facing a significant gap in its power supply portfolio (approximately 40% by 2015) even under projections where a high amount of demand side-management resources are acquired. The PSB also concluded that the PPA will not adversely affect system stability and reliability. It found that the IBT mechanism specified in the PPA is a financial energy transaction that is not dependent on any particular transmission facilities and, therefore is unlikely to affect the physical electric system. Further, it found that because energy will be supplied during the peak sixteen hours of every day of the contract term and is not contingent upon the availability of any particular generator or transmission facility, it should provide a highly reliable source of power. The PSB further concluded that the purchase of energy under the PPA "is expected to provide an economic benefit to Vermont and its residents by providing a new, long-term power source at a price that is relatively stable, competitive with, or favorable to, projected market prices and lower than the cost of other available power resources with similar characteristics." The PSB cited to the on-peak energy profile, the IBT transaction structure, and the possible future sale or retention of environmental attributes to support its conclusion in this regard.

The PSB reviewed the PPA for consistency with the principles for resource selection expressed in BED's approved Integrated Resource Plan ("IRP"). BED had compared the PPA to other renewable resources previously evaluated in its approved 2008 IRP, and the PSB found that it compared favorably to other options and met the goals of the IRP on every measure. The PSB also concluded that the PPA was in compliance with the State's Electric Energy Plan in that it represents power from a "clean and stable" and "non-carbon emitting" resource. It further concluded that the PPA can be served economically by existing or planned transmission facilities without undue adverse effect on Vermont utilities or customers, finding that unlike the present contract between Vermont and HQ, it is not linked to specified interconnection facilities or interties and will not require new transmission investment.

### ***Overall Public Good***

In addition to the criteria under 30 V.S.A. §248 (b), the Board considers whether the PPA serves "the general good of the state." One issue raised in the PSB proceeding was the likelihood that the PPA would lead to the construction of new power generation plants in Quebec, and the Vermont Buyers' failure to evaluate the environmental impacts of this new construction on Vermont. The PSB concluded that because the PPA only replaces approximately two-thirds of the existing contract between HQ and Vermont and requires HQUS to deliver power regardless of whether or not new facilities are constructed, it should not cause the

construction of major new facilities in Quebec and, therefore, there was no need to evaluate possible environmental impacts.

Another issue raised by some parties concerned the potential misuse or misrepresentation of the environmental attributes to be transferred to the Vermont Buyers pursuant to the PPA. The PSB found that environmental attributes reflecting the HQ system mix are not currently traded within New England and do not currently qualify for any New England Renewable Energy Certificate ("REC") program. There is, however, the potential for the environmental attributes associated with the delivered energy to qualify for REC markets in the future, and so long as they are verifiable and separable from the underlying energy, the potential for misuse or misrepresentation is mollified. The PSB found that the verification process outlined in the PPA, along with the Vermont Buyers' ability to audit HQUS's compliance with that process, will enable the Vermont Buyers "to demonstrate the accuracy and validity of the environmental attributes, and will prevent 'double-counting' of the attributes." The PSB found it appropriate to impose a condition in the CPG to limit the ability of the Vermont Buyers to make claims and representations regarding the power provided by the PPA if they do sell the environmental attributes, and to prohibit the Vermont Buyers from selling the environmental attributes to more than one consumer to avoid double-counting of those attributes.

In conclusion, the PSB determined that given all of the foregoing, the Vermont Buyers' "purchases under the HQ PPA will promote the general good of the State."

### ***Enduring Rate Recovery***

The Vermont Buyers had requested the PSB to issue a ruling granting "Enduring Rate Recovery" of PPA transaction costs, which is defined as "an order issued by the Vermont Public Service Board that, in all material respects, provides assurance that [the Vermont Buyer]'s ability to recover its costs associated with the [HQ] PPA shall not be disallowed, provided that there is a continuing obligation of [the Vermont Buyer] to prudently manage its rights and obligations under the [HQ] PPA." PSB precedent required the Vermont Buyers to demonstrate "clear and compelling benefits to ratepayers that would not be attainable without such recovery guarantees." The PSB concluded that "the added benefits of guaranteed rate recovery are neither sufficiently substantial nor sufficiently certain to justify such a departure from long-established ratemaking principles," and denied the Vermont Buyers' request for Enduring Rate Recovery. Enduring Rate Recovery would have resulted in little to no cost savings to BED, so the PSB's denial was of no real import to BED.